

Patent Claims

1. Apparatus (12) for simultaneously and/or successively carrying out at least two catalytic tests, having a reactor element (10), which includes at least one gas inlet unit (14), a plurality of reaction chambers (16) and at least one restriction unit (18), the at least one restriction unit (18) being configured in such a manner that it has a plurality of channels (20), which are arranged in such a manner that at least one reaction chamber (16) is in direct contact with at least one channel (20) of the at least one restriction unit (18).
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2. Apparatus (12) according to Claim 1, in which the plurality of channels (20) have identical geometries, the geometry being determined at least by the length and the cross section of the channels (20).
- 15 3. Apparatus (12) according to Claim 1, in which the plurality of channels (20) have different geometries, the geometry being determined at least by the length and the cross section of the channels (20).
4. Apparatus (12) according to one of the preceding claims, in which at least one channel of the channels (20) has at least one capillary.
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5. Apparatus (12) according to Claim 4, in which the at least one capillary is exchangeably connected to the at least one channel of the channels (20).
- 25 6. Apparatus (12) according to one of the preceding claims, in which the at least one restriction unit (18) can be exchanged independently of the other components of the apparatus.
7. Apparatus (12) according to one of the preceding claims, in which the at least one gas inlet unit (14) is arranged in such a manner that the gas which flows in is distributed radially into the gas space (22) via the plurality of reaction chambers (16).
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8. Apparatus (12) according to one of the preceding claims, in which at least one gas outlet unit (36) is arranged in such a manner that the gas inside the off-gas space (42) is discharged radially from the at least one off-gas space (42).
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9. Apparatus (12) according to one of the preceding claims, which has at least one IR-transparent cover (24).

10. Apparatus according to one of the preceding claims, which as the IR-transparent cover (24) has a silicon wafer which is arranged between the plurality of reaction chambers (16) and at least one thermal camera (26).
- 5 11. Apparatus (12) according to one of the preceding claims, which has at least one mask (38) with a uniform IR emissivity.
12. Apparatus (12) according to one of the preceding claims, in which the at
10 least one restriction unit (18) has at least one heating unit (28).
13. Apparatus (12) according to one of the preceding claims, which has at least one off-gas unit (32) with a plurality of membranes (34).
- 15 14. Apparatus (12) according to one of the preceding claims, which has at least one positionable probe (40).
15. Use of an apparatus (12) according to one of Claims 1 to 14 for carrying
out catalytic tests, in particular for analysis using infrared thermography and at
20 least one further analysis method, on building blocks of a material library.